occasion of some partial recurrence of the excitation which originally gave rise to them) explain all such adaptive action as we call intelligent. The psychologists of the association school, from David Hartley in the middle of the eighteenth century to Herbert Spencer and the contemporary extreme behaviourists, have asserted that associative memory is all that is required. And the conclusion to which all the abler critics of associationism converge by their different routes is that you cannot, by adding associative memory to a mechanical or physico-chemical system, convert it into a system that works teleologically and intelligently; though you may set up a plausible imitation which might deceive an observer at first glance. It is far more impossible than to make a silk purse out of a sow's ear.

On the other hand, given a teleologically working system, a goal-seeking system, then the development within it of a system of associative memory may be of great service to it in its strivings in pursuit of its goals.

Now, Bleuler's mneme is merely one ingenious hypothetical system of associative memory. His engrams are memory-traces which (whether they be conceived in molecular terms as by Semon, or in physico-chemical terms as by Rignano, or more ambiguously as by Bleuler) are in themselves merely deposits of such a nature that they may facilitate the recurrence of a process of a specific kind. And if that process were in its essence a mechanistic process, no such memory-trace, no complex of such traces, would convert it into an intelligent

purposive activity. To assume that it may do so has been the error that dogged Lloyd Morgan all his life long and vitiated his best work, as it has vitiated the thinking of a multitude of lesser men.